Aseptic Necrosis of the Femoral Head after Pregnancy

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症　　例

Aseptic Necrosis of the Femoral Head after Pregnancy

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Abstract

Reported cases of aseptic necrosis of the head of the femur associated with pregnancy are rare. A case is presented and other known predisposing causes of aseptic necrosis are discussed. The possibility that a normal pregnancy may very rarely be associated with aseptic necrosis is suggested.

Report of a case

A 28-year-old woman in the seventh month of pregnancy experienced the onset of right midthigh pain of mild severity. The pain occurred with weight-bearing. A severe limp rapidly developed. X-ray examination of the hip was considered undesirable because of the pregnancy. The patient had a vaginal delivery at term without complications. The pain and gait disturbance went on postpartum. Two and a half months postpartum, the patient was referred to our department. Her previous pregnancy was normal, and there was no serious illness until this illness.

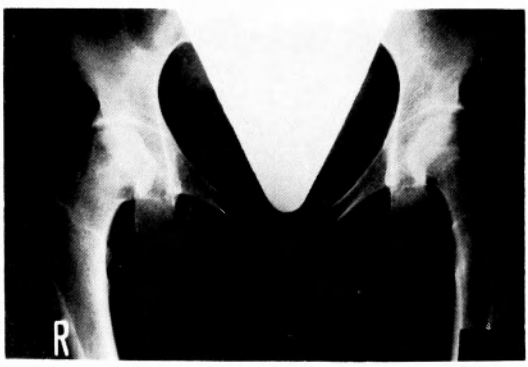

Fig. 1. Roentgenogram two and a half months postpartum shows translucent areas in the latero-superior segment of the right femoral head.

Key words: Aseptic necrosis, Femoral head, Pregnancy.
索引語：無腐性壊死，大腿骨頭，妊娠.
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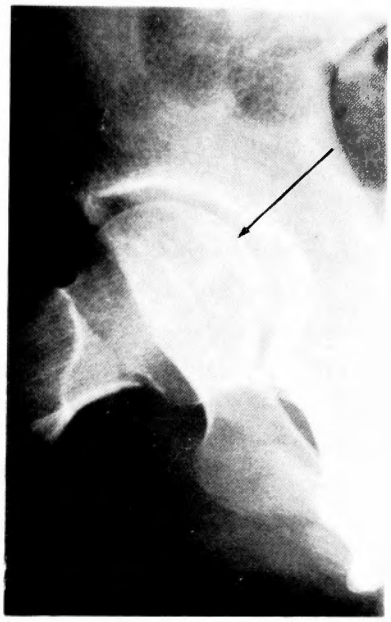

Fig. 2. Roentgenogram in a lateral view shows a translucent subchondral band (arrowed).

Oral contraceptives, alcoholism and steroid usage were not recognized.

There was no sign of local inflammation around the right hip. Movements of the hip were restricted; 0-110° of flexion, and abduction was 30° less than in the right hip. Internal and external rotations were also restricted. Trendelenburg sign was positive in the right hip. Roentgenogram of the right hip showed a slightly flattened margin of the articular cortex and a translucent area in the latero-superior segment of the right femoral head (Fig. 1). A translucent subchondral band of the right femoral head was seen in a lateral view (Fig. 2).

Roentgenograms of the left femur, knees, hands and spine were normal. Results of blood studies were normal as Table 1. ESR was 15 mm/hr; both latex and antinuclear antibodies were negative. Technetium Tc 99 m bone scan showed increased uptake in the right femoral head and

Fig. 3. Technetium Tc 99 m bone scan shows increased uptake in the right femoral head and neck.

Table 1. Blood examination

RBC	419×10^4
WBC	4.6×10^3
HGB	12.1 g/dl
SGOT	21 mU/ml
SGPT	12 mU/ml
LDH	152 mU/ml
Alk. Phos.	72 mU/ml
T. Bili.	0.5 mg/ml
Creat.	0.7 mg/ml
Uric Acid	6.0 mg/dl
BUN	18 mg/dl
T. Chol.	198 mg/dl
Ca	8.8 mg/dl
Inorg. P	4.0 mg/dl
Alb	4.1 g/dl
T. P.	7.2 g/dl
Free Chol.	47 mg/dl
Estel Chol.	129 mg/dl
Phospholipid	153 mg/dl
Triglyceride	83 mg/dl

neck (Fig. 3).

A diagnosis of osteonerosis was made, and a bone grafting with tibial cortical bone was performed. A strict non-weight-bearing regimen was instituted postoperatively and enforced for six months. During that time, results of blood studies remained normal. At the end of six months of strict non-weight-bearing, the patient gradually resumed weight-bearing. She is now 16 months postpartum, walks with one crutch, and has pain only on sudden rotation of the joint. Movements of the hip are slightly restricted; 0--120° of flexion, and abduction was 10° less than in

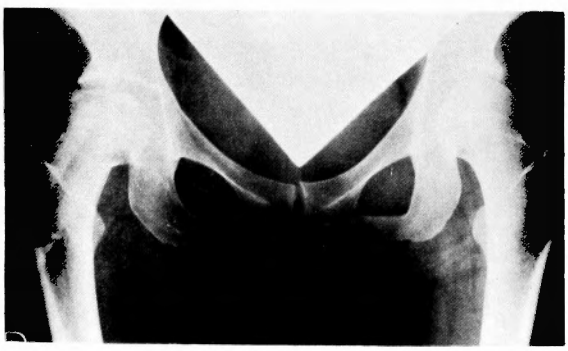

Fig. 4. Roentgenogram sixteen months postpartum shows depression of the latero-superior segment of the right head and rather homogeneous structure of the region, but no narrowing of the joint space.

the right hip. Internal and external rotations are also restricted. Roentgenogram shows depression of the latero-superior segment of the right head and rather homogeneous structure of the region, but no narrowing of the joint space (Fig. 4).

Discussion

According to ZOLLA-PAZNER et al.[8] (1980), only nine cases of femoral head necrosis associated with pregnancy have been reported. The association of pregnancy and femoral head necrosis was first reported by PFEIFER[6] in 1957 but his patient had toxemia, empyema of the gall-bladder with sepsis and severe albuminuria. Radiological examination revealed lesions in the humeral and femoral heads. PATTERSON et al.[5] (1964) noted the occurrence of the lesion developed during the postpartum, but there were no comments about the complications. According to KAY et al.[3], GRIFFITH (1968) reported two patients. In one of these there was a clear association with sickle cell anaemia. The other patient had no evidence of sickling, and synovial biopsy of the hip showed no evidence of tuberculosis. BURROWS[1] (1965) reported a patient with vaginal bleeding complicating thrombocytopenic purpura at the 34th week of pregnancy. In addition to repeated blood transfusions, treatment with prednisolone 45 mg to 150 mg daily was instituted. Radiographic examination eleven months later revealed bilateral shoulder and hip lesions. KAY et al.[3] (1972) described two patients. In one of these there was an association with a severe aplastic anaemia requiring repeated blood transfusions totalling 80 units. In the other patient, pregnancy was the only known factor. ZOLLA-PAZNER et al.[8] (1980) noted the occurrence of the lesion as the third case in which no other associated predisposing factors leading to femoral head necrosis. JACOBS[2] (1978) has reported disorders associated with femoral head osteonecrosis (Table 2).

In our case, we could not find the disorders shown in Table 2. Otherwise LICHTENSTEIN[4] took pregnancy (particularly in the last trimester) for a relatively infrequent cause of osteoporosis. RASMUSSEN et al.[7] discussed idiopathic osteoporosis in the young adult, and noted that the fea-

Table 2. Associated disorders found in 269 patients with femoral head osteonecrosis (by Jacobs[2])

Alcoholism
Steroid Usage
Hyperuricemia
Pancreatitis
Sickle Cell
Gauchers
Liver Disease
Caissons
Polycythemia
Diabetes
Obesity
Ovulen
Idiopathic Hyperlipemia

tures of this disease which clearly distinguish it from the senile, or postmenopausal, variety are: 1) its development in young, healthy males before the age of 40; 2) its sporadic occurrence; 3) its a rapidly progressive condition with the collapse of several vertebral bodies taking place within a few years. But in our case, roentgenograms of the lower thoracic and lumbar vertebrae were normal. Normal level of the serum calcium excluded the patient from secondary hyperparathyroidism due to pregnancy.

In the case of our patient, the possibility that a normal pregnancy may very rarely be associated with aseptic necrosis is suggested.

Acknowledgement

We would like to thank Professor Dr. MICHIO ARAI for his helpful advice and for allowing us to study the patient under his care.

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和文抄録

妊娠中に生じたと思われる無腐性大腿骨頭壊死の1例

秋田大学医学部整形外科学教室（主任：荒井三千雄教授）
服部 彰，狄野 正明，水谷 羊一，稲場 斉

症例：28才，妊娠7カ月頃より右大腿部痛，股関節痛を生じた．正常分娩後2カ月半で当科を訪れ，精査の結果，無腐性大腿骨頭壊死と診断された．妊娠以外誘因となり得る異常は見出し得なかった．骨移植術施行，経過観察中である．